

The Birds of Little Barrier Island, N.Z.

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The Government of New Zealand has wisely set aside for the preservation of the indigenous birds of that country three wooded islands each of considerable size and with mountainous features. Little Barrier Island is situated near the northern, Resolution Island near the southern extremity, and Kapiti Island near the middle of the Dominion. Each is eminently suited to bush birds; and this is all that is required of an island sanctuary, for shore and open country birds are mostly wanderers, and could not be depended on to reside permanently in a small area. One has only to visit one of these sanctuaries to realise the success which has followed the protection afforded. Birds which are rare or even quite extinct on the mainland are on Little Barrier Island abundant and quite fearless of the visitor. From early dawn to dusk the forest rings with their songs. Happiness and prosperity seem to reign everywhere. Yet the bird life is not without its tragedies. Life may be easy for most, but a toll is taken by Harriers, which pay visits from the mainland, by a few resident Bush Hawks, and, worst of all, by some cats introduced by former settlers and now reverted to a semi-wild state.

Little Barrier Island originally belonged to a Maori tribe, from whom it was acquired by the Government for the purpose of a bird sanctuary. "After considerable difficulty and many vexatious legal delays, the Crown at last obtained peaceable possession of the island of Hauturu, or Little Barrier. This, however, was not carried out without the help of the Permanent Force, and the residence on the island for some months of one of the torpedo-men, and eventually the removal by a specially chartered vessel of all the live-stock on the island claimed by the Maoris."*

Little Barrier Island lies some fifteen miles due east of Rodney Point. Its length from north to south is given as $4\frac{1}{2}$ miles; its breadth from east to west as $3\frac{1}{2}$ miles. With the exception of a boulder flat on the south-west side, the whole surface is rough and mountainous, and densely covered with vegetation. A boulder beach surrounds the island, making the landing workable only on the leeward side or in fine weather. Viewed from the sea it presents the appearance of a truncated cone, and, knowing its volcanic origin, one would expect to find a crater. But the island is a deeply dissected pile of fragmentary rocks, and a distinct crater cannot be recognised, though probably occupying the head of Weka Gully, immediately under the south-east side of Mt. Archeria. The main feature of the island consists of two high sinuous ridges forming an irregular T. One of these runs from Ngatamahine Point in the north along the east side of the island

*Appendix to Journals of House of Representatives, 1897. C1, p. 124.

to East Cape in the south. At each end of this ridge, a bold rock with precipitous sides stands out above the general level of the ridge. The northern rock is known as Orau,* the southern as Bare Rock or Wekaweka. This ridge gives off spurs with intervening gullies to the east. From its central and highest point, Tirikakawa, a spur leads away westward following an S-shaped course as far as The Thumb, or Herikohu. About its centre this ridge culminates in Mt. Archeria, 2450 feet above sea level, the highest point in the island.

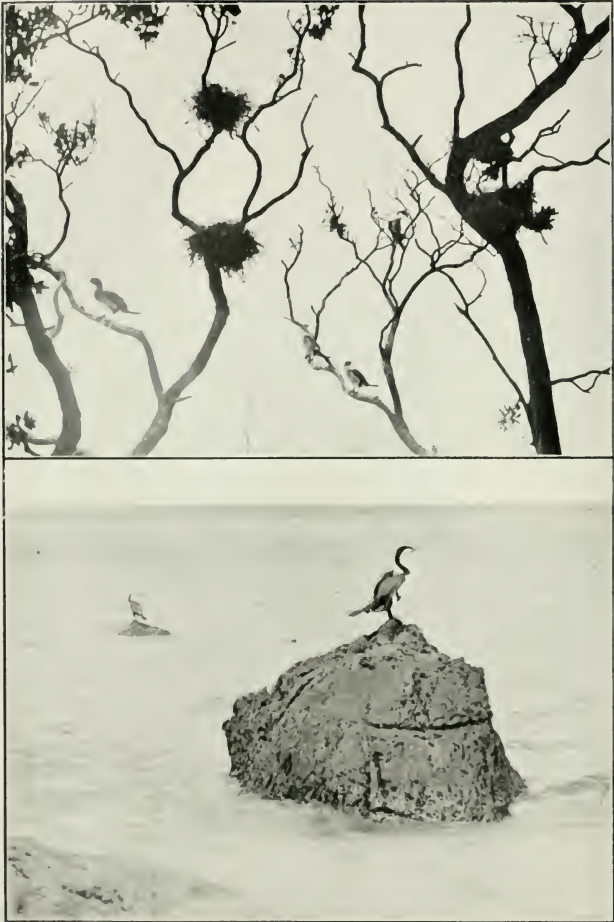
The greater portion of the island consists of a breccia, or agglomerate of a rather loose matrix enclosing angular fragments, frequently of large size, of lava rocks. Only in two places that I visited did I find the lava in situ. From the weathering of such loose material is produced a series of deep gullies alternating with high ridges radiating from the centre of the island.

The peculiar coastline, unsatisfactory both for landing and fishing operations, is entirely due to the nature of the rock of which the island is composed. The sea is constantly wearing away all sides, producing high, vertical cliffs subject to slips. The loose matrix is soon washed away, and the lava fragments are ground to smooth boulders by rubbing against each other, thus leaving a boulder beach at the foot of the sea cliffs. This beach continues without interruption along the whole coastline of the island. Many of the gullies near where they enter the sea have sides of the same nature as the sea cliffs; that is to say, a creek runs through a deep, narrow gorge. Hence it happens that on most of the coastline on the north side of the island, although a landing may be effected on the boulders, no further progress can be made, for most of the gullies give no access to the interior.

The only level ground in Little Barrier Island is a shingle flat about fifty acres in extent on the south-west side. The main portion of this flat is fairly level and supports vegetation consisting of sedges, grasses, manuka and pohutukawa. The area near The Spit is terraced and ridged in a direction parallel to the south side. The whole flat appears to have been thrown up by the sea, mainly, if not entirely, from the south-east.

The whole island, with the exception of a portion of the shingle flat, which is occupied by sedges and grasses, is covered by forest. This consists of a variety of associations ranging from dry manuka scrub on the coast ridges to wet moss-forest on the high slopes and ridges. The distribution of the different types of forest can be made out from the trig. station on Mt. Archeria: and all kinds are passed through in going from the sea coast to the summit. Along the coast the ridges are occupied by tall manuka scrub with undergrowth of sedges, and this passes

*The native names are taken from a map published in App. Jour. H.R., 1900. They may not be used here as intended by the map, which is so incorrect as to make it impossible to be sure of their correct application.



Upper—Pied Shags and nests on top of sea cliffs.

Lower—Pied Shags drying their wings on rocks along shore, Little Barrier Island.

Photos. by W. R. B. Oliver, F.L.S., F.Z.S., R.A.O.U.

towards the interior into high manuka forest with coprosma mainly as undergrowth. The gullies near the coast are occupied by rata-tawa forest. Further inland rata-tawa forest still occupies the gullies and lower slopes, but the ridges support kauri-beech forest. This latter is of a rather dry type, containing in its lower portion many large manuka trees. All the upper portion of the island is covered with a damp, shady forest, in which tawa, tawhero, pukatea, tawari and heketara are the most abundant. This forest is characterised by its undergrowth of large-leaved shrubs, such as kanono, patete and *Meliccytus macrophyllus*, and also by its richness in ferns and mosses. On the southern sides of the hills it is always damp and cool. Altogether the forests on Little Barrier Island provide all situations from comparatively dry ridges to cool, damp gullies. The wealth of filmy ferns, mosses and liverworts on the higher slopes bears evidence that moist conditions obtain there throughout the year.

In addition to the species of birds listed below, all of which are indigenous, the Brown Kiwi (*Apteryx australis*), Haast's Kiwi (*A. haasti*), and the Kakapo (*Strigops habroptilus*) have been transferred to the island, while the following introduced species have made their way over from the mainland—Sparrows, Thrushes, Blackbirds, Starlings, and Greenfinches.

Eudyptula minor. Little Blue Penguin.—This bird is fairly common in Hauraki Gulf, and is said to breed round the coast of Little Barrier Island. Several dead specimens were noticed on the rocks.

Sula serrator. Gannet.—Fairly common, but does not breed on Little Barrier Island, preferring small isolated rocks such as Gannet Rock, off Waikeke Island.

Phalacrocorax carbo. Black Cormorant (Shag).—A visitor only to the island.

Phalacrocorax (Hypoleucus) varius. Pied Cormorant (Shag).—There is a colony of Pied Shags breeding on the cliffs on the south coast. They build large, untidy nests of sticks in forks of bare and exposed branches of pohotukawa* trees overhanging the tops of the sea cliffs. The nesting sites continue as headquarters for both young and adult for many months. In March they were seen sitting on the branches together. During the daytime they go short distances fishing, or sitting on rocks along the shore, sunning themselves or drying their wings, but they always return to the nesting places in the evening. The young differ from the adult chiefly in that their colours are not developed, especially the white on the throat and breast, which are always more or less grey.

Microcarbo melanoleucus. Little Pied (White-throated) Cormorant.—Known as a visitor only to Little Barrier Island.

Pelecanoides urinatrix. Diving Petrel.—Plentiful in Hauraki Gulf.

Halobæna cærulea. Blue Petrel.—Reischek obtained a specimen on Little Barrier Island.†

Prion turtur. Fairy Dove Petrel.—Buller has recorded that this species was found breeding in burrows on Little Barrier Island.‡ It is common enough in Hauraki Gulf.

* *Metrosideros tomentosa.*

†Iredale, Aust. Av. Rec., vol. 2, p. 25.

Procellaria parkinsoni. Black Petrel.—The Black Petrel breeds in large numbers on the higher ridges of Little Barrier Island. It lays a single egg at the end of a burrow two or three feet long. In late February many burrows were noticed high up on the hills, but I did not see anything of the birds. Reischek records these birds cleaning out their old burrows in November. The first egg was found on 28th November, after which several eggs were found with the female always sitting.‡

Pterodroma macroptera. Great-winged Petrel (North Island Mutton Bird).—This species is common in Hauraki Gulf and the Bay of Plenty, breeding on many of the islands. It usually makes its burrows just at the top of sea cliffs. In March I found many burrows on the south coast of Little Barrier Island. Reischek found this species breeding, and records that a single egg is laid in each burrow in September.

Pterodroma (Cookilaria) cooki. Cook Petrel.—This is by far the most abundant of the Petrels breeding on Little Barrier Island. Everywhere on the hillsides and ridges about midway between sea coast and summit their burrows are to be found. Reischek, who gives an account of their breeding habits, found eggs in November. Judging from what I saw of the remains of birds killed by cats, they were fully fledged by the end of February. A considerable number must be killed by cats, as birds with breasts and heads eaten were encountered in various parts of the bush. I collected several skulls, wings and feet, and from these am able to identify the species.

Puffinus carneipes. Fleishy-footed (Pink-footed) Shearwater.—This appears to be the northern representative in New Zealand of the Sombre Petrel (*P. griseus*). Authentic records include the seas from the Bay of Plenty, where it breeds on Karewa Island, to the vicinity of the Three Kings.

Puffinus assimilis. Allied Petrel (Shearwater).—Two small species of *Puffinus* occur in New Zealand waters—the present species and *P. gavia*, which is somewhat larger. At all times of the year one or both species are to be seen flying near the surface of the sea off the northern coasts, but he would be an expert who would distinguish the species on the wing. *P. assimilis* was found breeding at high elevations on the northern portion of Little Barrier Island by Reischek.** Birds collected by Reischek have been examined by Iredale and the identification confirmed.††

Puffinus gavia. Brown Petrel (Fluttering Shearwater).—I did not see the Brown Petrel, but as it was taken on Little Barrier Island by Reischek* it must be included in the list as breeding on the island. This species has been named *Puffinus reinholdi*,† and, later, *Reinholdia reinholdi*‡ by Mathews on the grounds that Forster's description of *P. gavia* applies to *P. assimilis* and that specimens of the latter species have been examined from near Queen Charlotte Sound, the type locality of Forster's *P. gavia*. I have recently examined live specimens of the Brown Petrel from near Durville Island. In the flesh they are much darker than dried skins and Forster's description "supra coerulescenti-nigra" is not very far from the truth, so that Mathews' argu-

Macronectes giganteus. Nelly (Giant Petrel).—This species may occasionally be obtained off shore in Hauraki Gulf.

‡ Buller, "Birds N.Z.," Ed. 2, vol. 2, p. 210, 1888.

§ Reischek, Trans. N.Z. Inst., vol. 18, p. 88, 1886.

¶ Reischek, Trans. N.Z. Inst., vol. 18, p. 92, 1886.

** Buller, "Birds, N.Z." ed. ii., vol. 2, p. 239, 1888.

†† Iredale, "Aust. Av. Rec.," vol. 2, p. 19.

* Trans. N.Z. List, vol. 18, p. 93, 1886.

‡ Birds of Australia, vol. 2, p. 74, 1912.

† Austral Avian Record, vol. 1, p. 107, 1912.

ment loses much of its force. Further, this species is common about Cook Strait and westward, whereas *P. assimilis* is not known from these waters unless Mathews' specimen is authentic. I do not think, therefore, that there is sufficient reason to sink the name *gavia* as a synonym of *assimilis* and found a new one for the Brown Petrel.

***Sterna striata*.** White-fronted Tern.—The common Tern of New Zealand coasts is abundant in Hauraki Gulf, and usually seen in small flocks.

***Hydroprogne caspia*.** Caspian Tern.—Occasionally seen in Hauraki Gulf; usually only a few (two to six) together.

***Larus dominicanus*.** Black-backed Gull.—This fine bird is one of the most conspicuous species in our coastal waters. The young, which is quite differently coloured, is thought by many to be a distinct species and referred to as Sea Hawk. This species breeds in unfrequented places on open slopes near the coast, building a large nest of grass on the ground. Two eggs are usual, though clutches of three are common enough, and are laid in November. A few nests are built each year on Rangitoto, while Shakespeare states that it breeds on the north-west point of Little Barrier Island.

***Larus novæ-hollandiæ*.** Silver (Red-billed) Gull.—Common in Hauraki Gulf as elsewhere on the coast of New Zealand. Flocks of these birds and the White-fronted Tern follow the schools of common mullet (*Agonostoma forsteri*) which are also pursued under water by the Kahawai (*Arripis trutta*).

***Hæmatopus unicolor*.** Black Oyster-catcher.—Noted on Little Barrier Island by previous observers. I did not see it. Oyster-catchers are usually met with on sandy coasts. At Kaipara Heads I have seen pairs of black birds, pairs of pied birds, and mixed pairs. The suggestion at once occurs that the present species may be merely a melanistic form breeding true. Other members of this category are the Black Fantail (*Rhipidura fuliginosa*) and the Bronze Shag (*Hypoleucis chalconotus*) both of which are known to breed with pied species though intermediate forms are not known.

***Porzana pusilla*.** Little Crake (Marsh Rail).—This species is inserted on the authority of Shakespeare, who states that he has seen two examples.

***Lamprocoeyx (Chalcocoeyx) lucidus*.** Shining Cuckoo.—Plentiful during the summer months. No eggs have yet been found on Little Barrier Island.

***Urodynamis taitensis*.** Long-tailed Cuckoo.—Like the preceding species, this is a summer migrant. Occurring commonly on Little Barrier Island among a populous avifauna, it is said to rob the nests of other birds, taking both eggs and young. It has not itself been detected breeding on the island.

***Circus approximans*.** Allied Harrier.—According to the caretaker, Mr. R. Nelson, the Harrier breeds on Little Barrier Island, but owing to his efforts not many are now to be seen. As protector of the other birds, Mr. Nelson takes every opportunity to destroy or frighten away predaceous species. Harriers are now chiefly as visitors from the mainland. On one occasion during my visit I noticed three.

***Nesierax novaeseelandiæ*.** Bush Hawk.—This fierce bird of prey is present on the island, but is not often seen.

***Ninox novaeseelandiæ*.** Morepork Owl.—The Morepork is very common, but is not seen in daylight. From dusk throughout the night its call can be heard from all directions. Small birds doubtless form a portion of its fare, but it is more frequently observed catching night-flying insects. Though invisible when settled, it can be seen flying into the air from its perch, making quick movements and returning again to the same or a nearby resting place. It is probably capturing moths which the human eye in the dim light cannot detect.

A detailed examination of the stomach contents of the Moreporks from Little Barrier Island, made subsequently to my visit, showed that their food consists almost entirely of insects. In all the (six) stomachs examined no other kind of food was found. Remains of a large beetle, *Stethaspis suturalis*, formed the bulk of the contents.

Nestor meridionalis. Kaka.—This species of Parrot was observed in small numbers chiefly in kauri forests on the ridges. On noticing the visitor, they invariably utter warning screeches, then circle high overhead, and with further harsh cries disappear in the bush.

Cyanorhamphus novaeseelandiae. Red-fronted Parrakeet.—Small flocks met with throughout the bush from sea level to summit.

Cyanorhamphus auriceps. Yellow-fronted Parrakeet.—Stated by the caretaker to be seen occasionally.

Hemiphaga novaeseelandiae. Pigeon.—Frequently met with in the bush, attracting attention by their noisy flight. During the summer time there is abundance of fruits on which they feed. These include the taraire, tawa, nikau, karamu and puriri. In the winter, Pigeons are obliged to subsist mainly on leaves, of which they devour large quantities. Mr. Nelson has observed them eating the leaves of *Muehlenbeckia complexa* and *Coprosma rhamnoides*, both of which are common on the lower ground.

Halcyon (Sauropatis) sanctus. Sacred Kingfisher.—The Kingfisher is quite common along the shore, and goes a little way inland on the shingle flat and up the gullies. Its main fare is probably composed of insects. On the shingle beaches, however, a small black lizard is very common, and this the Kingfisher is quick enough to catch, and so materially adds to its fare.

Acanthisitta chloris. Rifleman.—The caretaker, Mr. R. Nelson, states that he occasionally comes across this species in the bush. I did not see it.

Miro longipes. North Island Wood-Robin.—Extremely rare on the mainland, these friendly birds, thanks to the protection afforded by the sanctuary, are plentiful throughout the forest on Little Barrier Island. They are usually encountered singly or in pairs, but so quiet and gentle are they in their movements that their presence is not detected until one stops and listens, when, perhaps within a yard or two, one hears the movement of a leaf. They appear to like human company, of which they are quite fearless, and will come hopping along and turn over dead leaves looking for insects almost at one's feet, every now and then turning their heads to look at their newly-made friend.

Myiomoira toitoi. North Island Tomtit.—Equally fearless and plentiful as the Robin, Tomtits are much more restless and quick in their movements. They appear to be incessantly flying about from twig to twig, resting for a moment in all sorts of attitudes, all the time on the lookout for insects, while occasionally peering at the visitor.

Rhipidura flabellifera. White-shafted (Pied) Fantail.—Very common everywhere on the island. They always make their presence known to the visitor, hopping about and twittering within a few feet of him, without, however, interrupting their chase for small insects, which they catch on the wing.

Maorigerygone igata. Grey Warbler.—Fairly common in the bush. Its call is more often heard than the bird is seen as it does not, like the Fantail, Robin and Whitehead, seek out the visitor.

Anthus novaeseelandiae. Pipit (Ground Lark).—A few are found on the shingle flat.

Mohoua albicilla. Whitehead.—This species is common throughout the bush, being usually seen in small flocks. As soon as the visitor



Nest of the Korimako or Bell-Bird in Manuka, Little Barrier Island.

Illustration communicated by W. R. B. Oliver, R.A.O.U.

is discovered, they crowd round him with much chattering and excitement. But in a little while, their curiosity being satisfied, or having decided that no harm is intended, they continue on their way. They build their nests in the bush on the lower levels.

Creadion carunculatus. Saddleback.—The Saddleback has not been seen on Little Barrier Island since 1882, so may be presumed to be extinct in that locality. It was first noted in 1862 by Layard, who saw but a single specimen, which he procured.* In December, 1867, Hutton landed on the east coast of the island, and recorded it as being very common.† Lastly Reischek states that it was rare in 1880, and still scarcer in 1882.‡

Anthornis melanura. Bellbird.—This is without doubt the most common species of bird on Little Barrier Island. Everywhere from dawn to dusk the forest rings with their musical notes. They seem most noisy when feeding; but sometimes they appear to collect together in a tree for the express purpose of singing. On such occasions they take no notice of the visitor who stops to listen with amazement at an impromptu concert of rich, sweet music. Many of their calls resemble those of the Tui, in fact probably the species mimic each other, so that the most practised bushman cannot be sure of the bird until he has actually seen it. There are several distinct calls, the birds in each locality answering one another with the same notes. Thus in passing through the bush one may hear a certain call in one place and a different one further on. Returning, it may be found that the birds in the first locality have changed their tune. The Bellbirds are quite fearless, and, altogether disregarding the visitor, incessantly search for insects, nectar and fruit. They may be observed from a distance of a few yards, climbing about the trunks and branches of trees, carefully examining every chink and crevice for insects and spiders. They love the peaches in the caretaker's orchard, and their delight is expressed by a continuous whistling to one another. But they destroy more peaches than they eat, for partly eaten fruit is often knocked off and is left on the ground to rot.

Prothemadera novaeseelandiae. Tui.—The Tui is very common, though not so often seen as the Bellbird. Besides a number of calls indistinguishable from those of the Bellbird, TuIs have many characteristic of themselves. They are frequently seen in pairs, often chasing one another through the bush with a swift, noisy flight. Often they fly high over the bush when moving from place to place.

Notiomystis cincta. Stitchbird.—This beautiful species is now quite extinct on the mainland. On Little Barrier Island, where only it survives, it frequents the forest high upon the mountain slopes. In passing up the tract to the summit a few can nearly always be seen. On discovering the visitor, they act much in the way that Whiteheads do. They come hopping excitedly towards him, calling "tee-tee-tee . . ." until quite close. When their curiosity is satisfied or resentment overcome, they may sit on a twig and preen their feathers, or else continue their search for food, which consists of nectar from flowers, succulent fruits and insects. A nesting site chosen was a hole in a tree. Here they built year after year, merely making up a new nest on top of the old one.

Zosterops lateralis. Silver-eye (Waxeye).—Very plentiful, usually seen in small flocks. They make small hanging nests in manuka scrub on the lower slopes. Like the Honeyeaters already mentioned, they feed on soft-bodied insects, nectar from flowers, and succulent fruits. In the caretaker's orchard they pick out the pulp from holes in peaches and figs made by Bellbirds and TuIs.

* "Ibis," 1863, p. 244.

† Trans. N.Z. Inst., vol. i., p. 104, 1869.

‡ Trans. N.Z. Inst., vol. xix., p. 188, 1887.